

Science Spotlight

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Summer, Science and Seals: High School and College Students Experience Marine Science Firsthand at the Woods Hole Science Aquarium

They come from diverse educational and family backgrounds, from states across the nation, and with interests in careers ranging from marine biology and teaching math to equine physical therapy and acting. For the 11 high school and college students who spent the summer of 2008 working or volunteering at the Woods Hole Science Aquarium (WHSA), the nation's oldest public research display aquarium, it has been a summer to remember.

Feeding fish, training harbor seals, cleaning tanks, leading shore-side collecting trips for the public, and helping children and adults learn about marine animals at the touch tanks have all been part of their daily routine. The WHSA offers three summer programs for students who have completed grade 10 or higher. The programs are run by the WHSA staff, and are projects of NOAA's Northeast Fisheries Science Center and the neighboring private, nonprofit Marine Biological Laboratory.

For college student Kelly Watson from St. Louis, Mo., a senior at Howard University in Washington, D.C., it was her first experience living and working by the ocean. "I wanted to do something different this summer, and didn't want to work in an office on a computer," she said. "I had no idea what I was getting into, and my friends didn't believe me when I told them I was going to Cape Cod to work in an aquarium for the summer."

Watson was one of three college students working at the Aquarium June 30 through August 20 through the Bradford E. Brown Student Internship program, named for a retired NOAA Fisheries scientist who was a leader in recruiting young people into fishery science.

The annual internships provide students with the opportunity to work with a professional staff caring for a collection of about 140 species of fish and invertebrates common to the continental shelf from Maine to North Carolina, two harbor seals named LuSeal and Bumper, and sometimes sea turtles held for rehabilitation and eventual release. The interns learn about marine animal husbandry, aquarium operations, conservation, and public education. They are also trained to serve as assistant naturalists on public collecting walks to local harbors and estuaries.

The interns also participated in the two-week Careers in Marine Science Seminar July 21 to August 1, along with eight high school students from California, Massachusetts, New York and Utah. Several high school students stayed for an additional 1-2 weeks after the programs ended to help with animal husbandry and to serve as junior naturalists on collecting walks.

Erin Rockwell of Rochester, N.Y., was one of the five high school students in the career seminar program. She is homeschooled, and admits she was "a bit nervous" about coming to Woods Hole, her first time away from home and participating in such a program. "I learned a lot, got to work with marine animals, met a lot of cool people, and am going home happy."

The career seminar students get training in marine animal husbandry and basic aquarist chores, hear presentations from scientists working in a variety of marine fields, go on collecting trips, visit other Woods Hole science institutions, and go on field trips to the New Bedford waterfront, Whaling Museum and Buttonwood Park Zoo and Nantucket's Maria Mitchell Association Aquarium. The seminar is designed to give students an idea of what people working in Woods Hole do and how different areas of science contribute to the larger effort to understand the marine world and to manage marine resources wisely.

Linnea Borden of Falmouth, Mass., also a career seminar student, attends Upper Cape Cod Regional Technical High School in nearby Bourne in the environmental science and technology program and plans to attend a four-year college to major in environmental science or forensics. She says learning about aquaculture, maintaining tanks and running an aquarium will be helpful to her efforts when her classes begin in a few weeks. "It was a great opportunity to see how an aquarium operation works, and to learn about all the career opportunities in marine science."

Joe Donohoe from Salt Lake City, Utah, lives far from the ocean but says that living in "a dry state" has only fueled his interest in marine science and marine life. A junior at West High School in Salt Lake City, Donohoe also participated in the career seminar and stayed two additional weeks. "This experience really clarified for me what options I have and has given me many ideas about what I could do with a degree in marine biology."

The students were kept busy during the day, and enjoyed many activities together at night and on weekends, from playing soccer and seeing the latest Batman film at the local theater to a bonfire on the beach and even a "Night at the Aquarium" when they are pizza, played games and slept on the conference room floor. "I even got to see bioluminescence for the first time when we went swimming one night." Donohue said. "It was so cool."

For career program student Danielle Spencer of East Oakland, Calif., who is of Navajo and Laguna Pueblo heritage, it was her first experience in a marine science program. She plans to pursue a career in marine science at the University of Hawaii, and says she would one day like to create a sanctuary for endangered or injured marine animals.

"The students add a lot of energy and enthusiasm to the Aquarium," says Rachel Metz-Leland, senior aquarist at the Aquarium and lead seal handler. "It is invigorating for me to work with young people who are so excited and inquisitive, so eager to learn. They ask a lot of great questions, and that gives us a good sense of what the public is getting from our exhibits and programs. They bring new ideas and perspectives, and help us improve the experience."

WHSA Curator George Liles agrees. "Each of the students has different interests, which make it fun for the staff. We get feedback from the students after each program, and that helps us improve the program the next year. We were very impressed by the caliber of students who came this year. The students pay their own travel and living expenses, so they clearly wanted to be here. And from the feedback we have gotten, the students leave here with a much broader sense of what marine science is all about and what career opportunities exist. And we hope they have a lot of fun in the process."

Related web links:

Woods Hole Science Aquarium: http://aquarium.nefsc.noaa.gov/

Bradford E. Brown Student Internship Program: http://www.nefsc.noaa.gov/sstudent/

Bradford E. Brown: http://www.nefsc.noaa.gov/sstudent/brown.html

Meet the 2008 Brad Brown Interns:

 $\underline{http://www.nefsc.noaa.gov/press_release/2008/SciSpot/SS0815/Student\%20list\%200815.1.html}$

Meet the 2008 High School Interns:

http://www.nefsc.noaa.gov/press_release/2008/SciSpot/SS0815/Student%20list%200815.1.html

Meet the 2008 Careers in Marine Science Seminar Students:

http://www.nefsc.noaa.gov/press_release/2008/SciSpot/SS0815/Student%20list%200815.1.html